

ANL/NDM-155

FAST-NEUTRON SCATTERING FROM ELEMENTAL RHENIUM

ABSTRACT

Results of measurements of neutron scattering from elemental rhenium over the incident-energy regions 0.3-1.5 MeV, and 4.5-10.0 MeV are presented. The first of these supplements previously-reported work at this Laboratory, and the second consists of information in a new energy range. These experimental results are interpreted in terms of optical-statistical and coupled-channels models, including consideration of dispersive effects, and of scalar and vector potentials. Some basic and applied physical implications of these considerations are discussed. Comparisons are made with other regional and/or global models, and with evaluated nuclear-data files used in applications.